

- [54] SPEECH RECOGNITION APPARATUS AND METHOD

- [75] **Inventors:** James K. Baker, West Newton; Paul G. Bamberg, Framingham; Mark F. Sidell, Cambridge; Robert S. Roth, Brighton, all of Mass.

- [73] Assignee: **Dragon Systems, Inc., Newton, Mass.**

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- [52] U.S. Cl. **381/42; 381/43**

- [58] **Field of Search** 381/42, 43

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Primary Examiner—Patrick R. Salce

Assistant Examiner—Anita M. Ault
Attorney, Agent, or Firm—Edward W. Porter

[57] **ABSTRACT**

A system is disclosed for recognizing a pattern in a collection of data given a context of one or more other patterns previously identified. Preferably the system is a speech recognition system, the patterns are words and the collection of data is a sequence of acoustic frames. During the processing of each of a plurality of frames, for each word in an active vocabulary, the system updates a likelihood score representing a probability of a match between the word and the frame, combines a language model score based on one or more previously recognized words with that likelihood score, and prunes the word from the active vocabulary if the combined score is below a threshold. A rapid match is made between the frames and each word of an initial vocabulary to determine which words should originally be placed in the active vocabulary. Preferably the system enables an operator to confirm the system's best guess as to the spoken word merely by speaking another word, to indicate that an alternate guess by the system is correct by typing a key associated with that guess, and to indicate that neither the best guess nor the alternate guesses was correct by typing yet another key. The system includes other features, including ones for determining where among the frames to look for the start of speech, and a special hardware processor for computing likelihood scores.

127 Claims, 13 Drawing Sheets

